UNIWERSYTET GDAŃSKI

COULD WATER TEMPERATURE STOP THE ROUND GOBY INVASION

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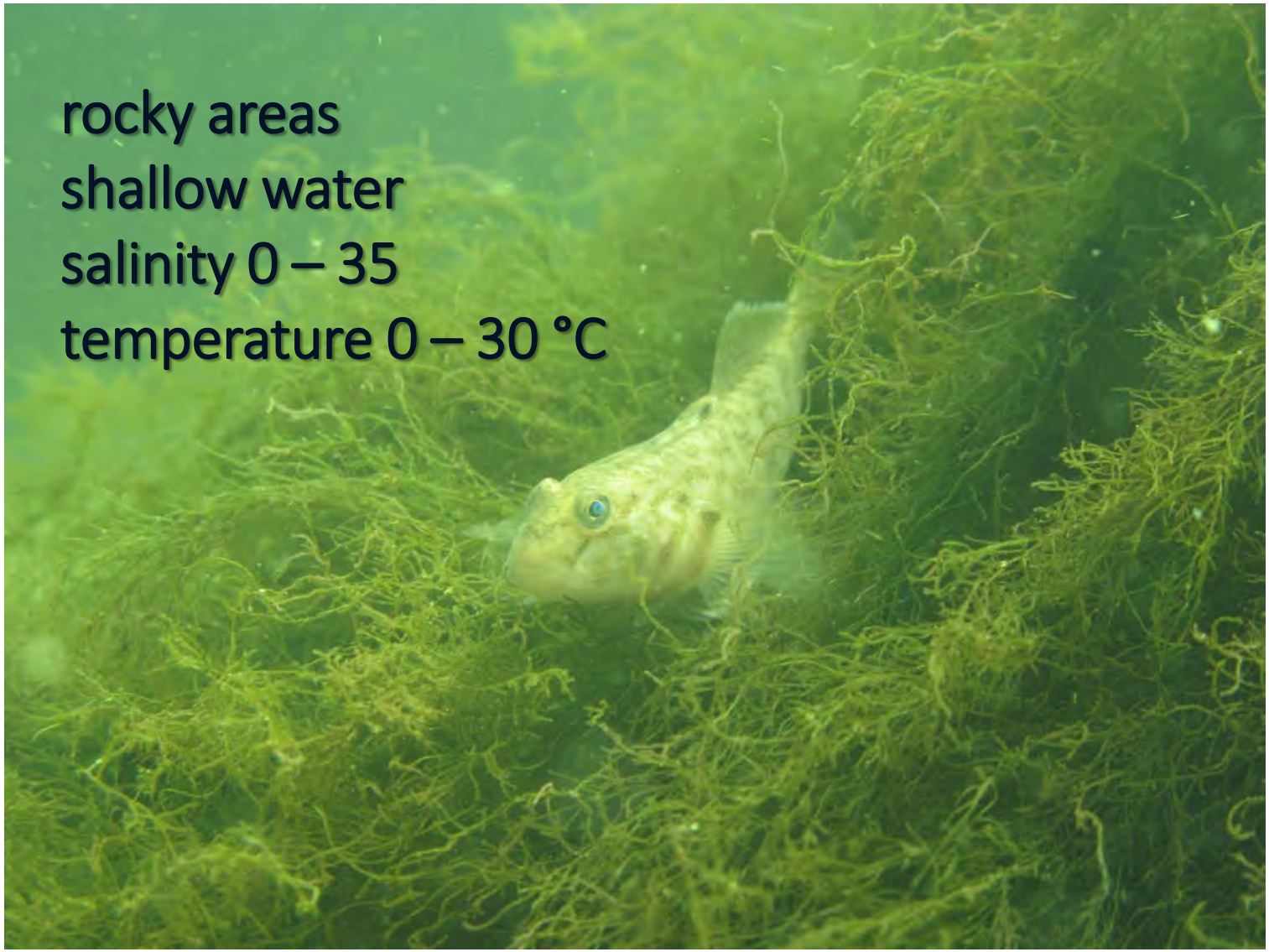
photo G. Kolat

Neogobius melanostomus, round goby, babka bycza

M. Buřič et al., DOI: 10.1051/kmae/2015029
www.lakescientist.com
www.natureconservancy.ca EDDmapS2018

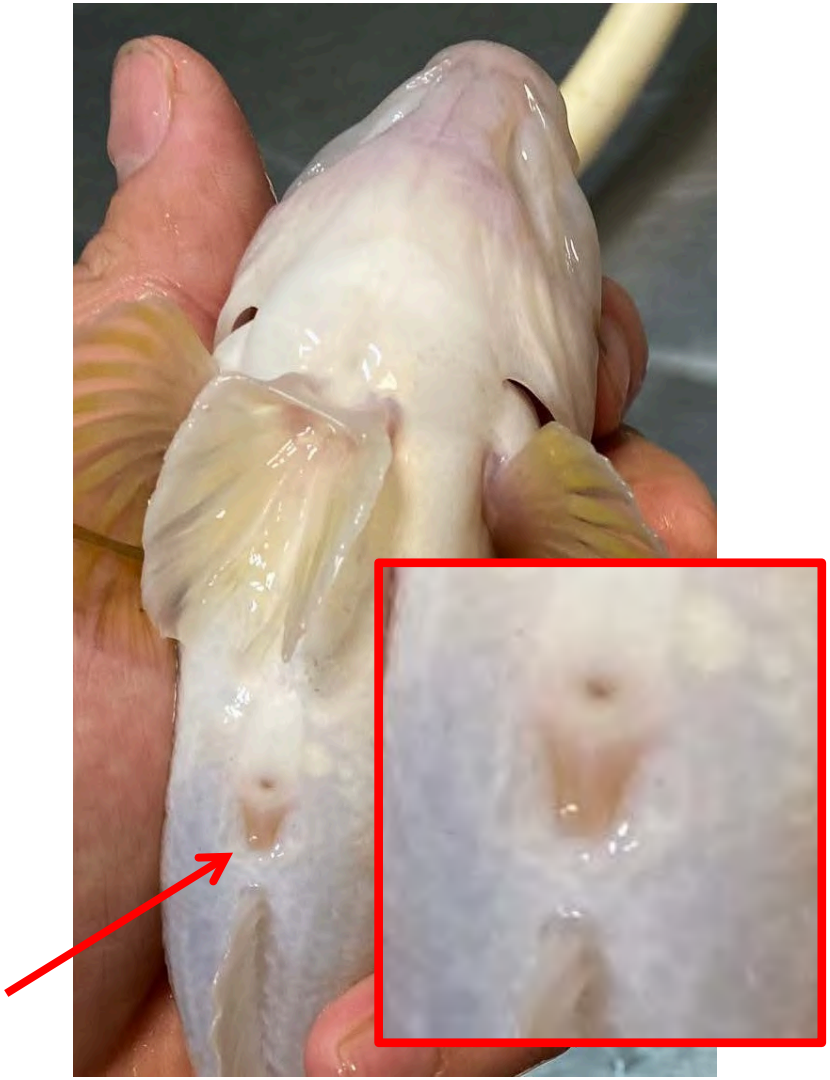
Preferences



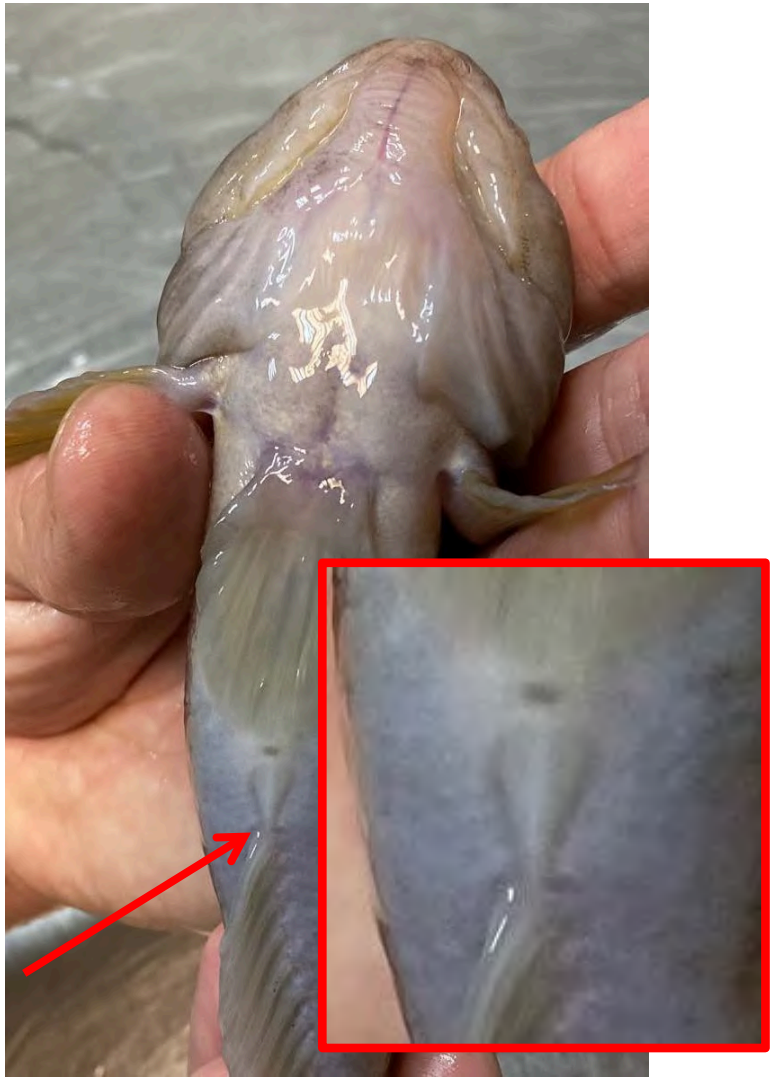
Preferences

rocky areas
shallow water
salinity 0 – 35
temperature 0 – 30 °C

Is there any environmental condition that can stop round goby?



female



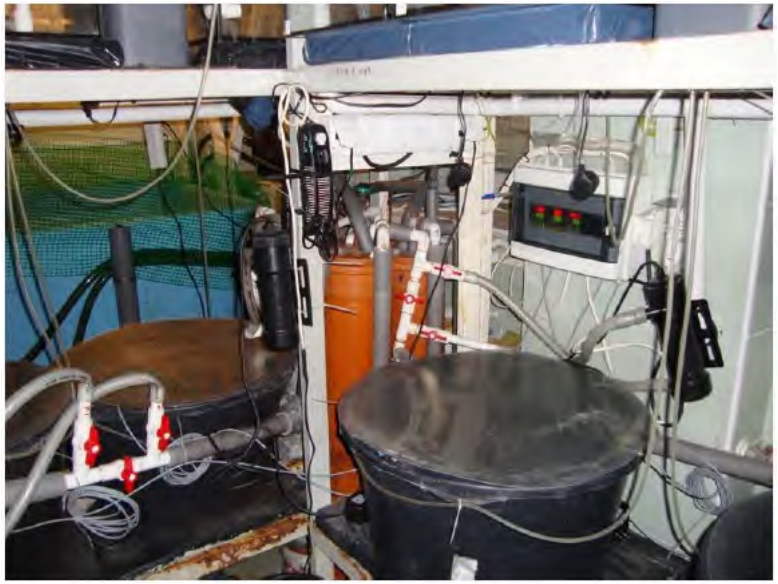
male

Incubation

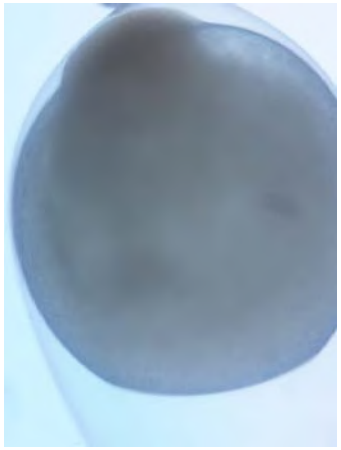
salinity 7

temperature °C

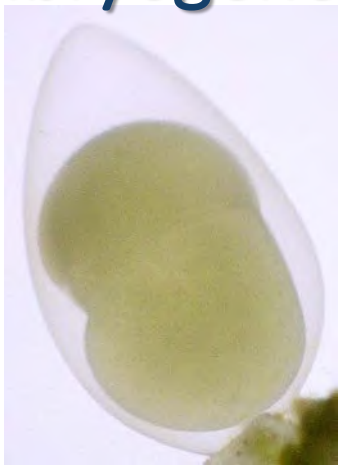
5 10 12 15 16 20 25



Embryogenesis in 20 °C



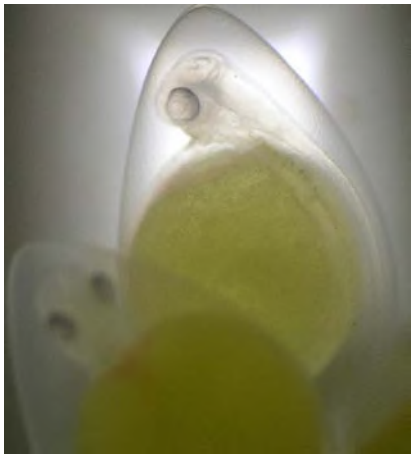
1 20dd



1 30dd
ϕ= 2,5 mm

3 60dd
ϕ= 3 mm

4 80dd
ϕ= 3,5mm



5 100dd
ϕ= 4 mm

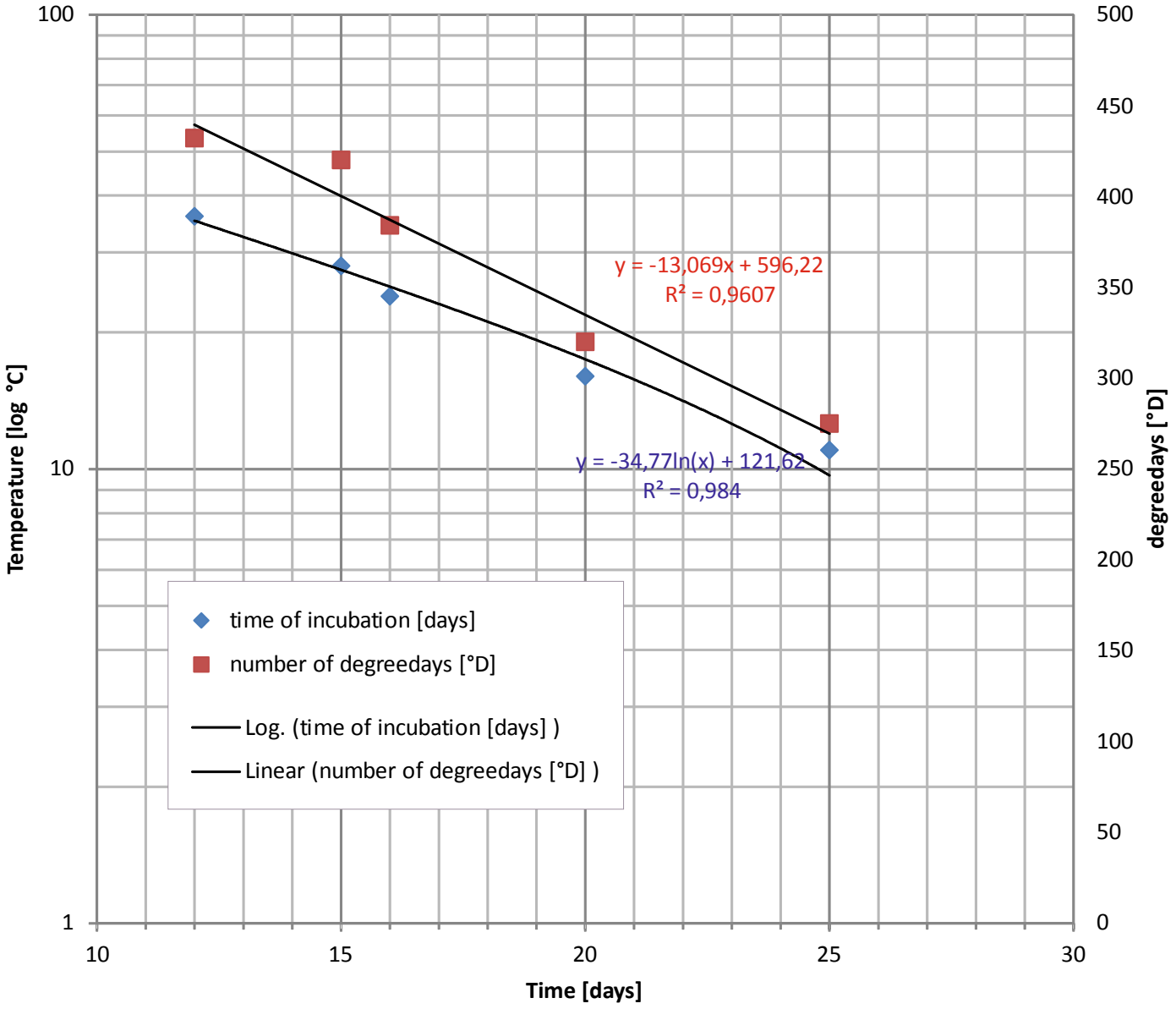
6 120dd

10 200dd

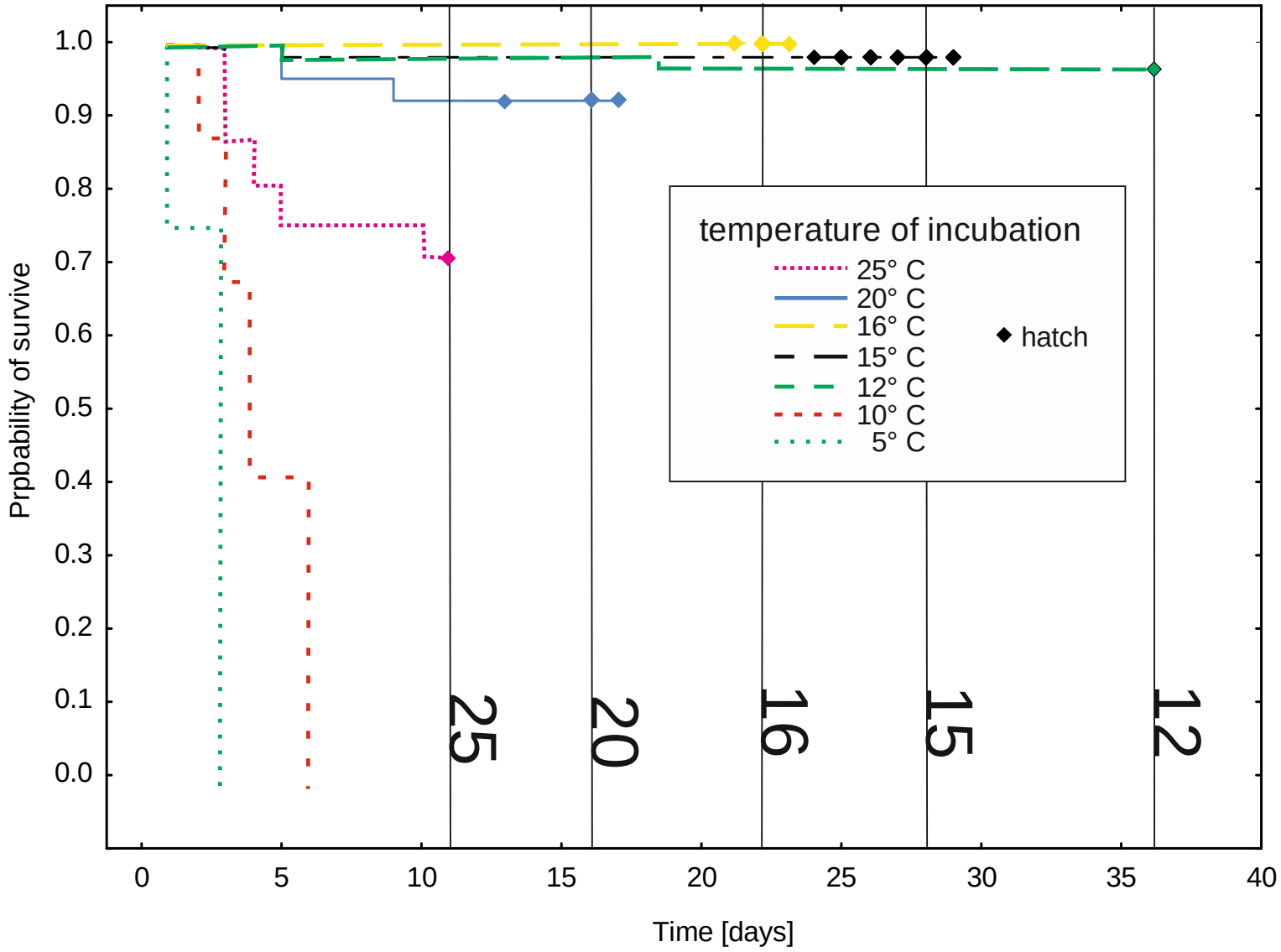
11 220dd
observation day

Haching 16 day of incubation

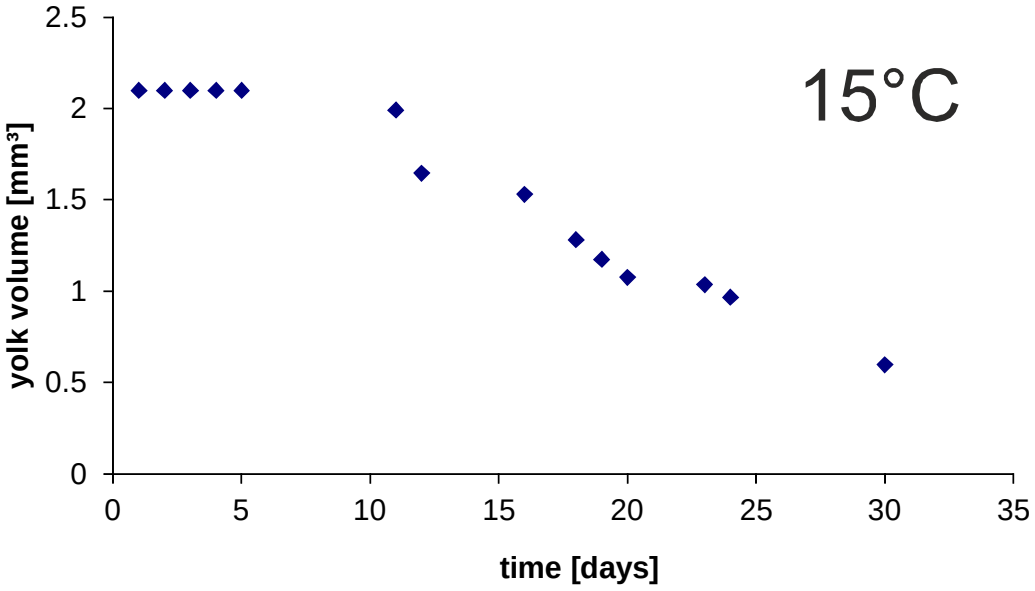
Lenght of incubation

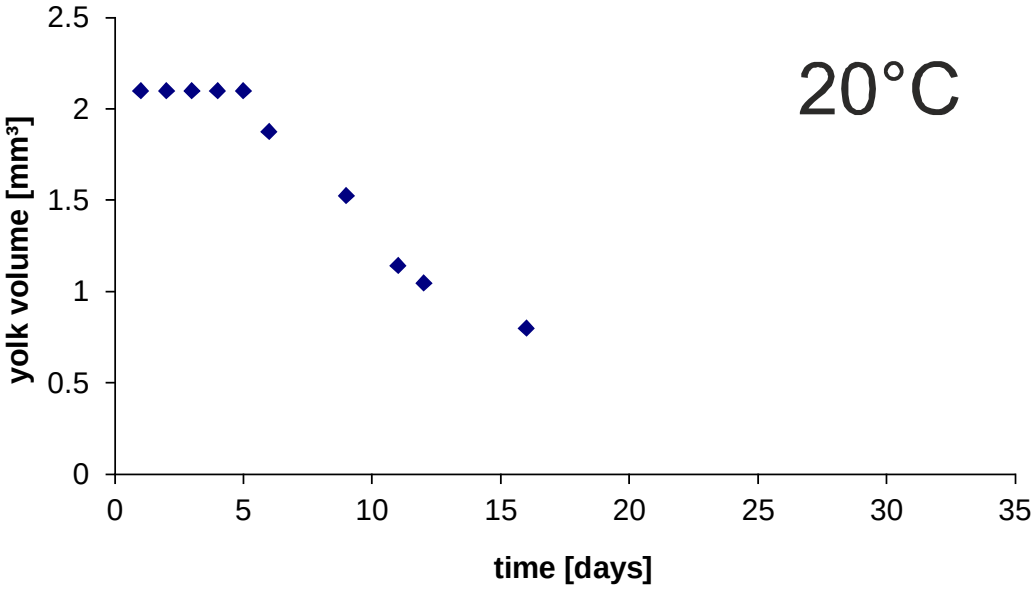


Kaplan – Meier survival rate



Yolk volumne



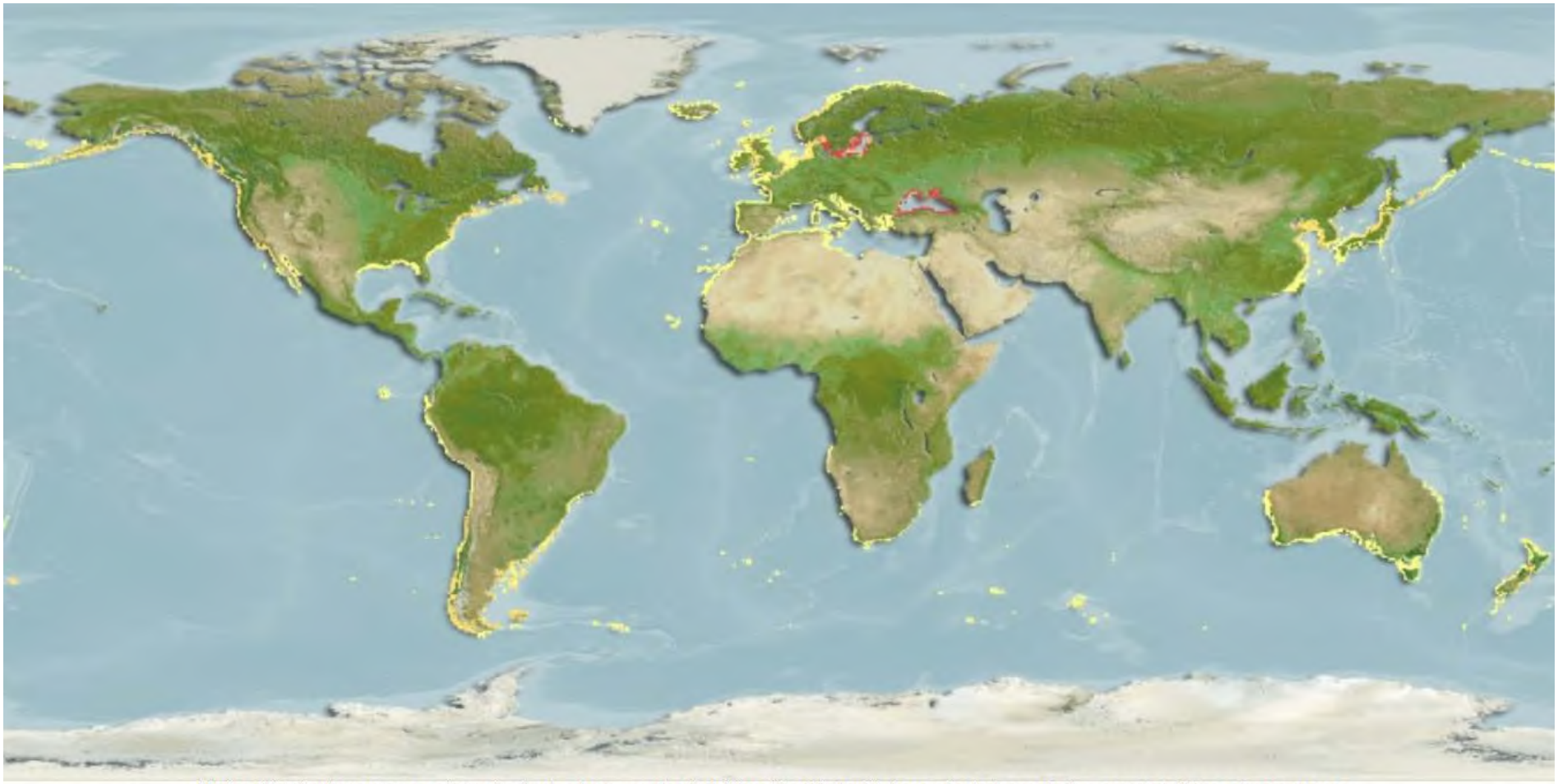


V=4/3πabc

volumne of spheroid

Conclusions:

- most effective embryogenesis is in water temperature from 15 to 20 ° C
- water temperature under 15 °C have very low probability of round goby spreading
- waters with temperature lover that 12 ° C all year are preventing **establishment of round goby population**



Note: Distribution range colours indicate degree of suitability of habitat which can be interpreted as probabilities of occurrence.

www.fishbase.com

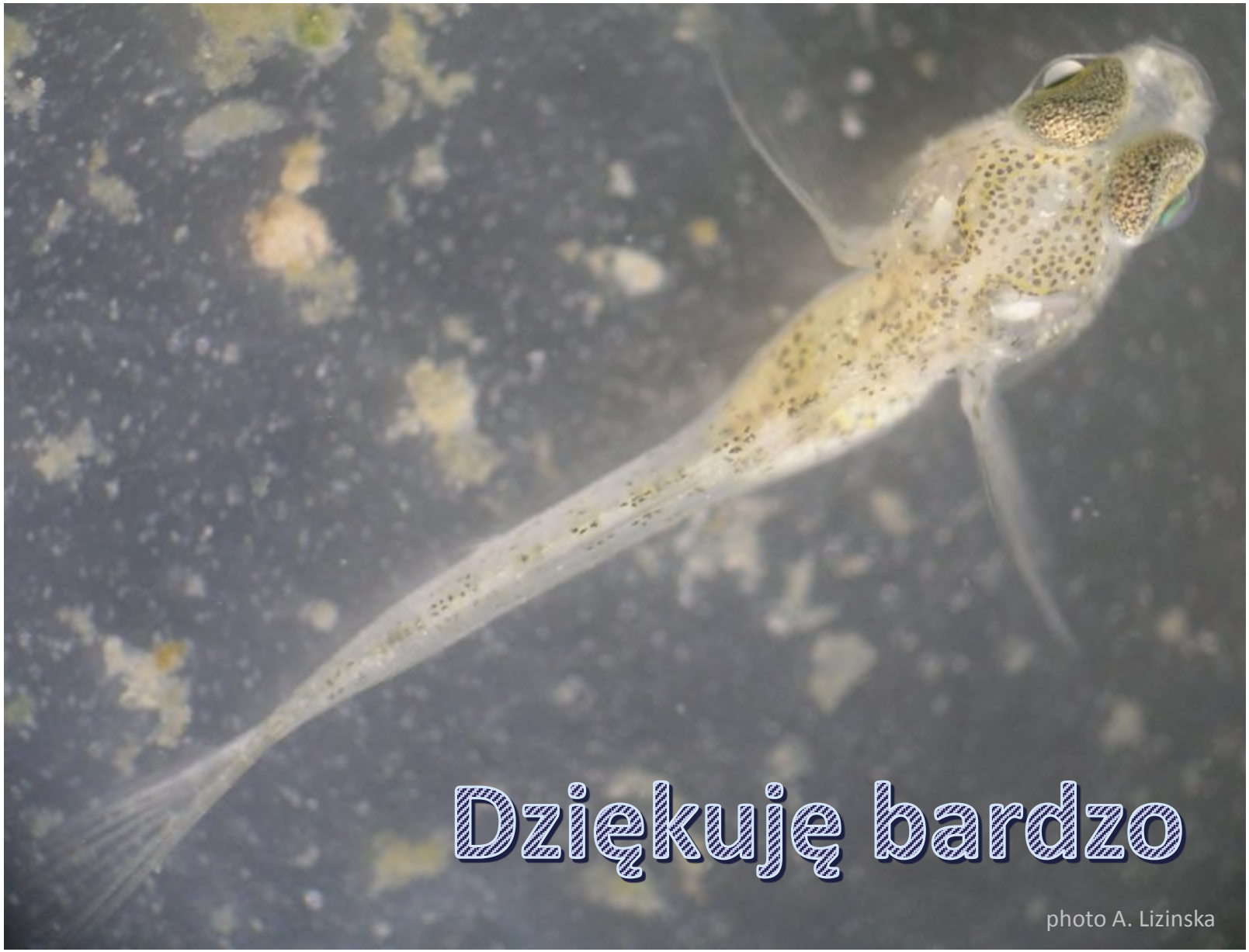

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photo A. Lizinska